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EXAMINER

ROCHE, TRENTON J

ART UNIT PAPER NUMBER

2193

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/034,601

Applicant(s)

YUCEL, SERMET

Examiner

Trenton J. Roche

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-148 is/are pending in the application.
- 4a) Of the above claim(s) 44-118 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-43 and 119-148 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This Office action is responsive to communications filed 8 December 2005.
2. Per Applicant's request, amended claims 1-6 and 8-43 have been entered. Newly added claims 119-148 have been entered. Claim 7 has been canceled. Claims 1-6 and 8-148 are currently pending, with claims 44-118 being currently withdrawn from consideration due to Applicant's election of 16 May 2005.
3. Claims 1-6, 8-43 and 119-148 have been examined

### *Election/Restrictions*

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-43, drawn to a Meta Model for building a knowledge-oriented software application, comprising 5 separate and distinct models, classified in class 717, subclass 104.
  - II. Claims 44-60, drawn to a Meta Knowledge Model, classified in class 717, subclass 104.
  - III. Claims 61-79, drawn to a Meta Logic Model, classified in class 717, subclass 104.
  - IV. Claims 80-118, drawn to a Kernel of a Run-time Model, classified in class 717, subclass 104.

The inventions are distinct, each from the other because of the following reasons:

5. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has

Art Unit: 2193

utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention II.

6. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention III.

7. Inventions I and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the independent claims of Invention I are directed to a model comprising 5 separate and distinct models, and do not require the specifics of the individual model as recited in the independent claim of Invention IV.

8. Inventions II, III and IV are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be

Art Unit: 2193

separately usable. Each respective invention has utility as a model not requiring the specifics of the other models. See MPEP § 806.05(d).

9. Applicant's election without traverse of Group I, claims 1-43 in the reply filed on 16 May 2005 is acknowledged.

### ***Claim Objections***

10. Claims 124, 129 and 136 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 15 already provides a Meta Knowledge Model comprising a Thing, a Key, a Fact, a Relation and a Knowledge Definition, and therefore the limitations of claim 124 do not further limited the subject matter of claim 15. Furthermore, claim 15 already provides a Meta Logic Model comprising an Event, and Event handler, and a Relation Function, and therefore the limitations of claim 129 do not further limit the subject matter of claim 15. Finally, claim 30 already provides a Meta Knowledge Model comprising a Thing, a Key, a Fact, a Relation, and a Knowledge Definition, and therefore the limitations of claim 136 do not further limit the subject matter of claim 30.

### ***Claim Rejections - 35 USC § 101***

11. 35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 2193

12. Claims 15-29 and 124-135 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter.

The invention as disclosed in claims 1-43 is directed to non-statutory subject matter. The claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” (State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F.3d at 1373, 47 USPQ2d at 1601-02.)

Specifically, independent claim 15 as currently written, fails to impart any functionality to the method which would produce a useful, concrete and tangible result. While the method is now indicated to be computer-implemented, the method is still simply a method capable of *providing* (emphasis added) a plurality of models, wherein the models are intended *for* (emphasis added) a variety of purposes. While the specific models themselves may have functionality which would produce a useful, concrete and tangible result, the claim as currently written does not indicate that the models are necessarily performing any data processing steps, as they are simply being provided by the method, said models being intended *for* (emphasis added) performing some action. The fact that a model is provided for doing something does not necessarily require that it is doing anything. As such, the claimed method simply presents a number of models which do not indicate that the method is necessarily producing a useful, concrete and tangible result. Thus, Applicants fail to disclose that the claimed method of providing models has a practical application which produces a useful, concrete, and tangible result under the State Street Formulation.

Similarly, claims 16-29 and 124-135 do not set forth any additional functionality pertaining to the claimed steps in the independent claims, and are rejected for the same reasons.

For these reasons, claims 15-29 and 124-135 are rejected under 35 U.S.C. § 101.

In the interests of compact prosecution, the Examiner suggests that claim 15 be amended to strike the use of the words “providing” and “for” in relation to the models, e.g., “the method comprising: a Meta Knowledge Model representing knowledge...”

***Claim Rejections - 35 USC § 112***

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 15-29 and 124-135 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites steps of “providing” a variety of models for certain purposes, however, the use of the word “providing” is indefinite as the word is unclear of what data processing steps the method is required perform to fulfill the aspect of “providing,” or even if the method has any part in each of the providing steps. Is the method reading the models? Storing the models? Transmitting the models? The claim does not clearly define, even in a broad sense, how the method is capable of “providing” the models, and as such, claim 15 is rejected as being indefinite.

For these reasons, claims 15-29 and 124-135 are rejected under 35 U.S.C. § 112 2<sup>nd</sup> paragraph.

***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2193

16. Claims 1-6, 8-43 and 119-148 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,374,252 to Althoff et al., hereafter referred to as Althoff.

**Per claims 1, 2, 8, 15, 30-32, 37-41, 124, 129, 136 and 144 :**

Althoff discloses:

- a meta knowledge model comprising a specification of how the knowledge-oriented software application represents knowledge, wherein the meta knowledge model further comprising a Thing, a Key, a Fact, a Relation, and a Knowledge Definition (“receives the descriptive information about the user’s object database...” in col. 6 lines 48-49. The information contains things, keys, facts, relations, and definitions, and the objects have names.)
- a meta logic model comprising a specification of how the knowledge-oriented software application derives new knowledge, wherein the meta logic model further comprises an event, and event handler, and a relation function (“The meta-model 220 comprises a set of classes 101, a set of searchable properties 102 for each class 101, and a set of relationships 103 between classes 101, thus forming a system object database for recording information about the user’s object database 100...” in col. 10 lines 12-16. Further, note Table 3-1.)
- a knowledge definition model comprising a specification of how the knowledge-oriented software application is converted from a human-readable format to executable code (Note Figure 2, item 260, and the corresponding sections of the disclosure. The query model takes user commands and converts them into SQL commands.)
- a catalog model comprising a specification of how the knowledge-oriented software application organizes the knowledge within an electronic device (“meta-model relational database...” in col. 7 lines 58-62)



Art Unit: 2193

- a run-time model comprising a specification of how the knowledge-oriented software application enables concurrent clients to manipulate the knowledge stored in the electronic device (“the relational database engine 240 comprises a client/server, multi-user, networked architecture which uses a multi-user relational database engine, so that (1) a plurality of users 201 may operate on the relational database 250 simultaneously...” in col. 7 lines 36-45)

substantially as claimed.

**Per claims 3-7, 11-14, 16-18, 125-128, 132-135, 137-140 and 145-148:**

Althoff further discloses object-oriented representations of things, keys, facts, relations, functions for converting elements of the meta model to an implementation, actions, and queries as claimed (“object-oriented database to store, manipulate, or retrieve” in col. 5 lines 41-42. Things, keys, facts, relations, functions, actions and queries are part of the database.)

**Per claims 9, 10, 130 and 131:**

Althoff further discloses events comprising an object-oriented representation of functions and responses as claimed (“In response to a triggering event, the system 200 translates the user model 230 into a user relational database...for specifying and creating relational structures...” in col. 8 lines 18-21.)

**Per claims 19-23:**

Althoff further discloses a logical name and a name of a programming language for each object as claimed (“Each object of the class 101 component has a searchable property 102 ‘name’...” in col. 5 lines 53-55. The objects must be written in some programming language.)

Art Unit: 2193

**Per claims 24, 25, 119 and 120:**

Althoff further discloses storing a declarative definition of the application and sets of classes as claimed (Note col. 7 lines 58-62)

**Per claims 26-29, 121-123 and 141-143:**

Althoff further discloses object-oriented definitions of how the application can be accessed by concurrent users as claimed (“the relational database engine 240 comprises a client/server, multi-user, networked architecture which uses a multi-user relational database engine, so that (1) a plurality of users 201 may operate on the relational database 250 simultaneously...” in col. 7 lines 36-45)

**Per claims 33-36:**

Althoff further discloses keys and a plurality of subtypes of keys as claimed (“primary and secondary keys of those tables, and other defining features of the user relational database...” in col. 8 lines 24-25)

**Per claim 42:**

Althoff further discloses Fact Types as claimed (Note col. 4 lines 5-22)

**Per claim 43:**

Althoff further discloses an array of things as claimed (“into an array...” in col. 28 line 9)

***Response to Arguments***

17. Applicant's arguments filed 8 December 2005 have been fully considered but they are not persuasive.

**Regarding rejection under 35 U.S.C. § 101:**

In response to Applicant's amendment, the rejection of claims 1-14 and 30-43 under 35 U.S.C. § 101 has been withdrawn. The rejection of claims 15-29 under 35 U.S.C. § 101 still stands for the reasons set forth above.

**Regarding rejection under 35 U.S.C. § 112 2<sup>nd</sup>:**

In response to Applicant's arguments, the rejection of claims 1-14 and 30-43 under 35 U.S.C. § 112 2<sup>nd</sup> in reference to use of the terms "specifications," "knowledge-oriented," "knowledge," and "physical implementation" has been withdrawn. However, in light of Applicant's amendments, the rejection of claims 15-29 under 35 U.S.C. § 112 2<sup>nd</sup> still stands for the reasons set forth above.

**Regarding rejection under 35 U.S.C. § 102(e):**

18. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Furthermore, the Applicant did not clearly distinguish how the cited portions of Althoff fail to teach each of the claim limitations. As such, the Examiner contends that Althoff discloses each and every limitation of the claims, and the rejection under 35 U.S.C. § 102(e) is proper and maintained.

***Conclusion***

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trenton J. Roche whose telephone number is (571) 272-3733. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:30 pm.

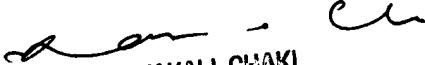
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2193

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